

WORKBENCH

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Next AUG Meeting

Sunday, September 17th at 2pm

(Doors open at 1pm, meeting starts at 2pm sharp)

AUG meetings are held at Victoria College Burwood Campus
Burwood Highway, Burwood - Melways map 61 reference B5.

Amiga Users Group Inc, PO Box 48, Boronia 3155 Victoria, Australia

Australia's Largest Independent Association of Amiga Owners
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AMIGA Users Group

Who Are WE?

The Amiga Users Group is a not-for-profit association of people interested in the Amiga computer and related topics. With over 1000 members, we are the largest independent association of Amiga users in Australia.

Club Meetings

Club meetings are held at 2pm on the third Sunday of each month at Victoria College, Burwood Highway, Burwood. Details on how to get there are on the back cover of this newsletter. The dates of upcoming meetings are:

Sunday, September 17th at 2pm

Sunday, October 15th at 2pm

Sunday, November 19th at 2pm

Production Credits

This month's newsletter was edited by Con Kolivas. Equipment and software used was: Amiga 500 with SIN500-2 memory board, Professional Page, and HP Laserjet.

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Contributions

Articles, papers, letters, drawings, cartoons and comments are actively sought for publication in Amiga Workbench. All contributions submitted for the purpose of publication that are printed in the newsletter are rewarded on the basis of one free public domain disk copy per column or half page printed with a minimum of one free copy. Contributions may be sent in on disk, paper or uploaded to Amiga Link or Amiga Link II in the area set aside for this purpose. Please send your contributions in text-only, non-formatted if they are on file and remember to include your address for return of disks and tokens for PD disks. Absolute deadline for articles is 23 days before the meeting date. Contributions can be sent to: The Editor, AUG, PO box 48, Boronia, 3155.

Membership and Subscriptions

Membership of the Amiga Users Group is available for an annual fee of \$25. To become a member of AUG, fill in the membership form in this issue (or a photocopy of it), and send it with a cheque or money order for \$25 to: Amiga Users Group, PO Box 48, Boronia, 3155

Public Domain Software

Disks from our public domain library are available on quality 3.5" disks for \$8 each including postage on AUG supplied disks, or \$2 each on your own disks. The group currently holds over 200 volumes, mostly sourced from the USA, with more on the way each month. Details of latest releases are printed in this newsletter, and a catalog disk is also available.

Member's Discounts

The Amiga Users Group negotiates discounts for its members on hardware, software and books.

Currently, Technical Books in Swanston Street in the city offers AUG members a 10% discount on computer related books, as does McGills in Elizabeth Street. Just show your membership card. Although we have no formal arrangements with other companies yet, most seem willing to offer a discount to AUG members. It always pays to ask!

Back Issues of Workbench

All back issues of Amiga Workbench are now available, for \$2 each including postage. Note that there may be delays while issues are reprinted. Back issues are also available at meetings.

Amiga Link I & II - Our Bulletin Board Systems

The Amiga Users Group operates two bulletin board systems devoted to the Amiga, using the Opus message and conferencing software. AmigaLink I and II are available 24 hours a day. AmigaLink I & II can be accessed at V21 (300bps), V22 (1200bps), V23 (1200/75bps) or V22bis (2400bps) using 8 data bits, 1 stop bit and no parity.

AmigaLink is part of a world-wide network of bulletin boards, and we participate in national and international Amiga conferences. AmigaLink has selected Public Domain software available for downloading, and encourages the uploading of useful public domain programs from its users. AmigaLink I (792-3918) is OzNet node number 8:830/324 and AmigaLink II (376-6385) is OzNet node number 1305/998

Newsletter Advertising

The Amiga Users Group accepts commercial advertising in Amiga Workbench subject to the availability of space at these rates:

Quarter page \$20
Half page \$40
Full page \$70
Double page spread: \$120

These rates are for full-size camera-ready copy or Professional Page format only. We have no photographic or typesetting facilities. Absolute deadline for copy is 23 days before the meeting date. Send the copy and your cheque to: The Editor, AUG, PO Box 48, Boronia, 3155, Victoria.

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Amiga parallel port to joystick adapter cable (as used by the Gauntlet game)

For those who are familiar with the game Gauntlet, you will know that it will allow up to 4 players. The extra two joysticks are connected to the Amiga via a joystick adapter cable which, we are told, is not available in Australia at the moment. An AUG member (Ulach Green) brought to Games 89 a home built adapter cable which worked very successfully. With his permission I traced the cable and built a duplicate. Below is the information necessary to build such a cable.

Hopefully, future 4 joystick games will use the same cable arrangement.

Parts Needed

- 1 - DB-25(male for A500 & A2000's, female for A1000's)
- 2 - DB-9 (male)

Covers/hoods for the above if desired.

16 way ribbon cable
(If you use rainbow cable, which simplifies wiring, use 20 way)

Equipment

Soldering iron, solder, tools, multimeter, three hands

The wiring is straight forward just use some care and check all connections with a multimeter before plugging it into your Amiga.

For convenience I'm calling one of the DB-9's "A" and the other "B" to distinguish between them.

If you are using rainbow ribbon cable, split it into 2 groups of 10 wires (between the brown and black) for ~4cm length at each end. Using the table below use one group of 10 wires to connect a single DB-9 to the DB-25 and use the other group of 10 wires to connect the other DB-9. The colour order used is not important but if you use the same sequence for both DB-9's it makes checking the wiring easier, particularly if it needs to be debugged.

To read the table below, an entry like:

"2- A1" is read as
"DB-25 pin 2 connects to the "A" DB-9 pin 1"

Note: NC- No connection.

DB-25 pinlist

1	- NC
2	- A1
3	- A2
4	- A3
5	- A4
6	- B1
7	- B2
8	- B3
9	- B4

10	- NC
11	- B6
12	- NC
13	- A6
14	- A7 & B7 tied together
15	- NC
16	- NC
17	- B8
18	- NC
19	- A8
20	- NC
21	- NC
22	- NC
23	- NC
24	- NC
25	- NC

After soldering the cable according to the above cable, recheck it manually. Power up your Amiga and connect the cable. If nothing untowards happens insert the game disk and check that up/down/left/right/fire all work as expected for both DB-9's.

Please note, I take no responsibility for anyone damaging their equipment by the construction of the above cable. This article is not to be considered approved or supported by the Amiga Users Group Inc in any way, shape or form.

Neil Murray

AMIGA A2000

with

- * Maxiplan v1.8
- * AmigaDos 1.3 ROM fitted
- * 3.5 MB total memory
- * Two 3 1/2" disk drives
- * XT Bridgeboard with 5 1/4" drive

* Paradise 5-Pack Multifunction card
(serial port, RAM disk software, clock/calendar, print spooler software, sockets for extra 128K RAM)

\$3,600

Telephone: N Blakeman 898-6352 (7-9 pm).

A Quick Hint On Defender of the Crown

While I was playing Defender of the Crown recently ,I had a stroke of what I believe to be very good luck.

The situation was that there was myself and only one other landowner.I called a tournament to take more land off him (using Wolfric the Wild as my character)and after winning two of the jousts I accidentally killed his horse.After this I was stripped of my lands.Now you may not call this good luck, but when I raided an empty castle I had owned ,I came out with a treasure of over 600.Now that's what I call good luck.

I have now done this several times and found it wasn't just a fluke.With this treasure build your army up with solders and knights and then transfer them into the campaign army.Once you have done this you will easily defeat your opponents providing the game hasn't been going to long as your opponents army can grow to a large number as well.

Happy conquering.

SMAUG REPORT

Over the last couple of months numbers at the SIG have fluctuated. The regular five or six members (who use the Amiga for music, anything else you can do is just a bonus) have always been in attendance with the curious and spasmodic raising the number to ten to fifteen members.

At the June meeting a demonstration was given of a Yamaha PSS-480 keyboard. These keyboards were being sold off by many shops (new models coming soon) for \$300.00 and are excellent value for anyone considering buying their first MIDI keyboard. I assume from the speed that a couple of large unnamed retail stores ran out of stock of PSS-480's a couple days after the July meeting that a significant number were purchased by members. A PSS-480 was used at the July main meeting where we attempted to show what is possible with the least expenditure.

The first SMAUG PD disk which is a compilation of the better music programs and demos available in the public domain was shown in July. It is available from our PD library as SMAUG #1.

Plans are a foot for the next disks. Disk number two will be a collection of raw audio samples. By raw I mean sampled and saved without any loop points or the specifying of the sample type. This will allow the end user to modify the samples (via Audiomaster, PSound etc) to suit any program.

I am interested in hearing from anyone who has made samples which they would consider donating for inclusion. Please no samples of commercial products, ie records, films.

Commencing at the September meeting, SMAUG will be holding a tutorial on the "Amiga, MIDI and music". The sessions will be oriented towards those members who have an interest

in music and would like to know what the Amiga can do and how. The emphasis will be on the basic concept of MIDI, how it works and the factors involved in interfacing to musical instruments. If you have an electronic keyboard or are considering purchasing one, come along and find what is possible. This tutorial will run over a couple of months but to get the most out of it (and to give me an indication as to whether I'm wasting my time) be there from the beginning.

Cheers Neil Rutledge.

```
PRINT "MakeButtons by Mark Kelly, Swan Hill
PRINT "Creates & handles unlimited buttons"
PRINT "anywhere on the screen"

MAKEBUTTONS 'create buttons

boring: 'do something in the meantime

FOR i=77 TO 1 STEP-1: LOCATE 22,i:PRINT " * ";NEXT
FOR i=1 TO 77: LOCATE 22,i:PRINT " * ";NEXT
GOTO boring

' come here when button clicked - you deal with button
' events here - e.g. ON BUTTON GOSUB a,b,c,d,e...
hb:
HANDLEBUTTONS
IF Button THEN
LOCATE 5,1:PRINT "Button"Button"clicked "
PRINT SPACE$(34); PTAB(1)Button$
IF Button$="FINISH THIS DEMO" THEN END
END IF
RETURN

SUB MAKEBUTTONS STATIC
'Create buttons & draw them
DIM SHARED nbuttons,bH
RESTORE bdata: nbuttons=0 'count buttons used
WHILE a<>99: READ a,b,x$
IF a<2 OR b<2 THEN
PRINT x$" button error: X="a "Y=" b
PRINT "Both must be >=2":STOP
END IF
nbuttons=nbuttons+1: WEND
RESTORE bdata : n=nbuttons : COLOR 2,1
ON MOUSE GOSUB hb: MOUSE ON
DIM SHARED bLX(n),bLY(n) 'label location given by you
DIM SHARED bLabel$(n) 'label given by you
DIM SHARED bW(n) 'width calculated
DIM SHARED bX(n),bY(n) 'box position calculated
bH=14 'button height

FOR b=1 TO n
READ bLX(b),bLY(b),bLabel$(b)
bX(b)=bLX(b)*8-bH 'base the box location
bY(b)=bLY(b)*8-bH+2 'on label location
bW(b)=LEN(bLabel$(b))*8+10 'box width
LINE (bX(b),bY(b))-STEP(bW(b),bH),1,bf 'button box
LINE (bX(b),bY(b))-STEP(bW(b),bH),3,b 'border
LOCATE bLY(b),bLX(b): PRINT bLabel$(b);
NEXT
COLOR 1,0

' NB: Minimum X & Y is 2.
' Space vertically adjacent buttons >= 2 lines
apart.
' X,Y coordinates given as line/column (e.g. LOCATE).
' Ensure you don't overlap buttons.
' Add spaces before & after label to widen button.
```

```
bdata:
' X Y LABEL
DATA 60,16, " OK "
DATA 05,10, "FINISH THIS DEMO"
DATA 02,15, " df0: "
DATA 11,15, " df1: "
DATA 20,15, " vd0: "
DATA 29,15, " ram: "
DATA 04,20, " CANCEL "
DATA 40,02, " ON/OFF "
DATA 40,04, " MemR "
DATA 40,06, " Mem+ "
DATA 40,08, " clear "
DATA 70,02, " sin "
DATA 70,04, " cos "
DATA 70,06, " tan "
DATA 70,08, " sqrt"
DATA 40,10, " The answer to the meaning of life "
DATA 50,02, " 7 ", 55,02, " 8 ", 60,02, " 9 ", 65,02, " / "
DATA 50,04, " 4 ", 55,04, " 5 ", 60,04, " 6 ", 65,04, " X "
DATA 50,06, " 1 ", 55,06, " 2 ", 60,06, " 3 ", 65,06, " - "
DATA 50,08, " 0 ", 55,08, " . ", 60,08, " = ", 65,08, " + "
' this must be last item
DATA 99,99, "LAST"
END SUB

SUB HANDLEBUTTONS STATIC
'identify button clicked, return button number & label
SHARED Button,Button$
mm=MOUSE(0):IF mm=0 THEN EXIT SUB
mx=MOUSE(1):my=MOUSE(2):b=0
FOR b=1 TO nbuttons
IF mx>=bX(b) AND mx<=bX(b)+bW(b) THEN
IF my>=bY(b) AND my<=bY(b)+bH THEN
x=bLX(b): Button=b
SOUND 2200,1
PAINT (bX(b)+1,bY(b)+1),2,3 'Flash button
COLOR 1,2: LOCATE bLY(b),bLX(b): PRINT x$;
PAINT (bX(b)+1,bY(b)+1),1,3
COLOR 2,1: LOCATE bLY(b),bLX(b): PRINT x$;
' Strip spaces fore and aft of label
s=1: WHILE MID$(x$,s,1)=" ":s=s+1:WEND 'fore
e=LEN(x$): WHILE MID$(x$,e,1)=" ":e=e-1:WEND 'aft
Button$=UCASE$(MID$(x$,s,e-s+1)) 'cut
COLOR 1,0
EXIT SUB
END IF
END IF
NEXT
END SUB
```

From: kodiak@amiga.UUCP (Robert R. Burns)

Let me say this again (though I didn't say it the first time). The hardware manual incorrectly identifies CIA usage. Here is the correct allocation:

CIAA (int 2)	
timerA	keyboard handshake
timerB	uSec timer.device
TOD	60Hz timer.device
CIAB (int 6)	
timerA	Commodore serial communication, usually
not used	
timerB	not used
TOD	graphics.library beam counter

This example code incorrectly allocates CIAA timerA. The

keyboard is arguably "broken" in the sense that it does not preclude that from happening -- but in any event, the keyboard expects timerA for its exclusive use. The keyboard.device code on the amiga side handshakes key acquisition to the keyboard processor using a mechanism such that if the timer is running, the handshake may not be properly generated. Furthermore, under 1.4 the keyboard.device will be using the timer itself, and the AddICRVector would begin to (correctly) fail.

so, use...

```
if ((CIAResource = (struct Library *)OpenResource(CIABNAME)) == NULL)
^
```

and do it carefully, because your interrupt code is now at a much higher priority (6 vs. 2).

My SoapBox
by Rudy Kohut

It must be hard to be a magazine editor or writer, especially for one that deals with computers. I mean, to be an editor of a magazine that covers all the machines on the market and all the software must be a living nightmare. How else can one account for the often irrational outbursts of such people?

It is because such people must appear to be "objective" and "knowledgable" in print in front of their peers that such people often fall back on the "known world" - the familiar - when judging products. This need to be "liked" may be an excuse but it is a flimsy one and not very enlightening when trying to understand why the AMIGA gets such a biased press from magazines that are used to dealing mainly with IBM machines.

I have been "watching" the print media ever since I bought my AMIGA 500 (and before) over 18 months ago. Since I have used the Macintosh at my work and currently am trying to master the IBM, I think I have a fair grasp of the qualities of the three machines and some of their software. So I am intrigued by what the "professional" critics have to say.

Frankly, I am amazed by the tripe that gets served up by these writers and editors when it comes to discussion of the AMIGA and some of its software. To be fair, many of these people also say things about "big blue" which are not exactly cricket either! Let me list some examples (without naming names):

(1) A feature writer for a large Australian magazine stated this year that the reason that the AMIGA didn't sweep the market away when it was introduced was because "everyone" thought that Commodore was going bust. Of course if you start thinking that, does your magazine give the machine and its software proper coverage?

(2) In the same magazine late last year, a writer reviewing one of Gold Disks latest offerings stated very boldly at the beginning of the review that he didn't like the AMIGA, although the hardware was good, because the software wasn't. By the end of the review he stated that the quality of the software was good but he still hadn't changed his mind about the AMIGA! Hon-

esty I can appreciate in a reviewer but illogical animosity takes the cake.

(3) An analysis of the AMIGA's "desktop publishing" potential by a prominent American magazine in that field late last year stated that although the AMIGA showed promise, a serious limitation was that the specialised graphics chips could only access the first 512k of memory and hence multitasking was not possible without fear of crashing the machine. A fair comment - except I've used the "benchmark" DTP software on the Macintosh and experienced system crashes all too often to want to remember, and on a "single-tasking" machine! Funny how this wasn't mentioned, don't you think?

(4) Another of those "leading" American magazines, in choosing its "computer of the year" (last year) called the AMIGA "unique", and "innovative", but decided that the machine was for the past and the present but not the future. Why? Because while the AMIGA could run both AMIGA and IBM software (even simultaneously), the AMIGA software was limited in scope! (I kid you not). So what did they choose - an IBM compatible laptop! Quite coincidentally, I saw a local article in a newspaper which commented on the choice and observed that the same magazine chose its "software of the year" from the Macintosh range - and that the software could not run on the chosen machine. Fair comment I think! In this case the magazine editors must have had their heads in the ground when looking for AMIGA software. It should also be mentioned that the now available Macintosh emulator for the AMIGA means that the one piece of equipment can run all three types of soft-

ware - so much for a machine of the "past and present"!

(5) My last observation is from another Australian magazine, which also chose a "computer of the year" recently. The AMIGA was given an even less friendly flick on the grounds that the machine had an identity problem and that while having one at home "for the family" was a good idea, no one could take seriously a machine that had the ability to run two different operating systems side by side!

(6) My last last observation is very recent. I was browsing through a magazine that deals exclusively with UNIX and came across an article which relayed the experience of an MS-DOS user who converted to a SUN UNIX machine. It was all good stuff and very positive about the move. What caught my attention was in the very last paragraphs where this person stated that they were now "sold" on a machine which was able to "multi-task" and used the mouse and windows - as if this was something quite new!

I can't help but be amazed, as I said earlier, by what I read. I guess the people at Commodore must feel pretty miffed by some of this as well! Be that as it may, the only way that the AMIGA can penetrate the "grey cells" of these people who write for such magazines is if Commodore do some aggressive marketing of the machine and its abilities. And I have not noticed any such move from Commodore here in Australia. The non-AMIGA computer magazines here have not had any ads for the AMIGA that I have seen in the last six months. The two national newspapers from Sydney and Melbourne, which publish special sections on computers each week, have been bare of ads for the AMIGA (although I did see at least one ad for the Commodore IBM compatibles, I think!).

The latest edition of "Amazing Computing" from the USA has a long editorial about the same issue - and asks readers to write in to Commodore demanding a more aggressive marketing stance from the company (they even have a mail in card in the magazine).

May I suggest that readers of this "AMIGA Workbench" newsletter do just that? And while you feel fired up, write letters to the editors of those "other" magazines asking for better and fairer coverage of the AMIGA and its software. Now, that's fair!

Spirit Technologies Product Review.
By S.Ryan.

After looking around for quite some time I finally made the decision to lash out and purchase a hard disk for my Ami. I considered several different packages including purchasing a Unit directly from the States. When I saw the ad in last months Workbench for Power Peripherals, I decided to purchase not only their Hard Disk Adapter, but also their IN1000 memory board. (Yes I have an Amiga 1000)

After making my big decision I got keen and took a day off work to go out and pick it up. Power Peripherals is run by Jo-

hn Hurford and he is currently located in Laverton (10 mins out from the City along the Tullamarine freeway) All

the items I ordered were waiting for me when I arrived so I promptly presented my cheque and rushed home to try them.

Feeling game, I decided to tackle the hard disk adapter first, since this was a new field for me. The unit came in a nicely logoed Spirit Technologies cardboard box and consisted of a metal box (The same color as the Amiga) with a bus through card installed. Into this card plugs the hard disk adaptor board (which was wrapped separately in conductive plastic) The slot size used for this card is the same as the standard 62 pin XT slots. At the other end of the hard disk adaptor board is an IBM slot into which the IBM controller plugs. (Upside down)

The kit came supplied with an equally brilliant installation disk. I was particularly impressed by the low level format utility. (Not even supplied or available with most hard disk kits in the same price range)

The types of controllers currently supported are:

- WD-1002A-WX1 (MFM)
- WD-1002A-27X (RLL)
- Omti-5520 (MFM)
- Omti-5527 (RLL)

none of which I had at the time. Being chiefly interested in the RLL Omti controller, I had decided to stick it out and wait until I could get one. (There was none available at the time) It so happened that I had a WD-1002A-WX2 controller card in my possession, not actually on the list but the type sounded very similar, or so I thought.

After pulling my controller out of the cupboard I immediately noticed that the size of the card was much too large to fit into the neat little case which comes with the spirit hard disk adapter. It turned out that all of the cards on the list were short cards, (barely wider than an IBM slot) so I decided to leave the cover off my case and try it anyway. The system fired up quite happily and loaded kickstart without a hitch. Rubbing my hands with glee I inserted a copy of the SPIRIT disk supplied (They recommend making a duplicate as a working disk) and proceeded to load the format program.

A couple of seconds later and I was presented with a very nice gadget driven screen. After setting up the parameters for my hard drive, I hit the format gadget and watched on as the hard disk clicked away merrily. After the format pass I ran the verify pass with the result that there were no bad tracks found. (Incidentally, the drive had "none" written in the manufacturers error list)

Ok now for the high level format. After modifying the mountlist to cater for my drive I proceeded to mount and format the drive with something like:

>format DRIVE dh0: name MiniHard FFS

This was nearly as slow as the AT's at work. (Chuckle chuckle) After this had completed and the new icon had ap-

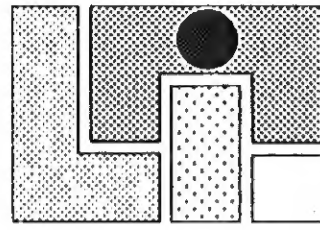
peared, I promptly proceeded to open the drive up with a double click to find that the expected trashcan was not present???. Hmmm... I then tried copying in a 'shell' icon, which seemed to move across quite happily, but when I closed the window and reopened it I was in for a big surprise.... The icon, when it reappeared looked like someone had cut it in half, reversed the order of the pieces and spliced it together again. ARGHH! I tried clicking on it but it didn't seem to activate. I then tried clicking on the very edge of the image (the part which would have been) the centre of the icon had it copied across correctly) and sure enough it activated, clicking again gave me a lovely guru and forced me to re-boot.

Mounting the device again caused AmigaDos to declare that DH0: was not a dos disk.

After playing with every parameter and every dipswitch / configuring pin I could lay my hands on, (20 hours of frustration) I finally called Power Peripherals and spoke to John. Much to my relief, John told me that he had tried exactly the same type of controller himself with no luck. Evidently this particular one was not supported by the driver software. Meanwhile I had been actively looking around for the Omti controller I was after, and had found that it was very hard to lay my hands on one. I priced all the other types and their equivalents while I was at it. Finally I found someone who had the one I wanted, but his price seemed a little excessive. In fact of all the controllers I priced, Power Peripherals came up cheapest (around half the price of anyone else (how do they do it?)) Anyway back to my phone conversation, upon explaining the situation to John, he offered to send me one of his DTC controllers, which were quite compatible, though not listed as such by Spirit Technologies, until I could obtain the one I wanted through either Power Peripherals or some other supplier.

I was extremely impressed by this offer and called Power Peripherals the following day and gave them my work address. The next morning there was a package on my desk when I arrived with a brand new card in it. I went home quite early that day (funny that!) and plugged the new card into the Hard Disk adapter, switched all on, loaded the format program, set the parameters and was presented with a horrible slice of text "Unable to set drive parameters" 'Hang about what the hells going on!' After pondering this new fault for a while I decided that maybe the trouble was in the adapter card. At this stage I tried inserting the autoboot rom and pal replacement, in the hope that the new pal would solve the problem. Back on again and double click on the format icon. The program loads up, but all the gadgets appear 'ghosted out'. I can't do anything except hit the exit gadget. Deciding that I had begun barking up the wrong tree, I promptly removed the rom and pal and replaced the original pal chip, and my original controller card. Switching on I brought up the format program again. "Wheww, no ghosted out gadgets." But this time I received another "Unable to set drive parameters" error. Hmmm things were getting worse. I then notified John of the situation, he offered to help me out and said that he could organize a swap over with one of his working boards. I Thanked him but said I would investigate the matter a little closer first.

LASER IMAGE TECHNOLOGIES



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Avante-Garde Software,
2213 Woodburn
Plano, TX 75075.

BENCHMARK MODULA-2

The Modula-2 Language.

Modula-2 is the successor to Pascal. Greatly expanded, and designed specifically for development rather than teaching, Modula-2 is fast gaining popularity. Modula-2 is very easy to learn, because its syntax is the clearest of any of the modern high-level languages. Programmers familiar with 'C' or Pascal will be able to use Modula-2 immediately.

Benchmark Modula-2.

The Benchmark Modula-2 package is a powerful Modula-2 compiler, written specifically for the Amiga, and now available in Australia direct from Laser Image Technologies. Features include:

- Fully Interactive programming environment, with integrated editor, compiler and linker.
- EMACS based Editor with over 150 commands. Editor supports multiple files and windows.
- Instantaneous compilation - just press [F2] and the current file is compiled at 10,000 lines per minute (burst rates of up to 30,000/minute!).
- Fix errors right on the spot - just press [F1] and the cursor is moved to the position of the next error.
- Instantaneous linking - just press [F3] and your program is linked at lightning speed. Most programs link in under 5 seconds!
- Instant execution - just press [F4] and your program begins to execute. Execution speed is incredibly fast, and the executable files are very compact.

The Benchmark System.

- Compiler, Linker and Editor.
- Software development Utilities (cross reference, process statistical analysis, quick load utility, etc).
- 700 Page Manual.
- 3 disks of Modula-2 demonstration programs - many are fully functional utilities in their own right!
- Over 100 library modules, giving you access to EVERY part of the Amiga operating system.

The Experts Say:

"If you were waiting for an Amiga version of Turbo Pascal, forget it! Get the Benchmark package and learn Modula-2. You'll never want to program in Pascal again." - Richie Bielak, Amazing Computing Magazine

"Frankly, I've been spoiled by the well-integrated Benchmark environment, so anything else pales in comparison." - Steve Faiwizewski, Amazing Computing

"The novice programmer will find Benchmark M2 a joy to use and the professional programmer can use Benchmark M2 to squeeze the last ounce of performance out of the Amiga." - Martin Murray, author of PowerWindows, INOVATRONICS Inc.

"The compiler can be kept in memory (to save loading and reloading) and the libraries, linker and editor fit on one disk. I have been able to happily run on an Amiga 500 with a single drive - quite a feat, especially with hardly any disk-swapping!" - DJ, Enigma Magazine (U.K.)

"For my money the latest Modula-2 compiler to reach the market is also the best. . . . I am convinced that a novice Modula-2 programmer could sit down with the manual, example files and editor and start writing original programs in just a few hours." - AMIGA World.

Performance Statistics :

Program	Source (Lines)	Source (Files)	Compile (Secs)	Link (Secs)	Run (Secs)	Size (Bytes)
Sieve	50	1	0.5	0.3	4.8	1230
Othello	1320	11	60	2.5	N/A	15602
Scimpi	1850	7	28	4.1	N/A	35848
RayTrace	2557	1	17	3.6	N/A	28930
Gravity Wars	2750	11	90	5.5	N/A	40194
Kermil	4400	43	51	8	N/A	42208
DataBase	25154	85	249	17.1	N/A	163710

Requirements :

Amiga 500, 1000, 2000. One disk drive, 512K memory.

Also Available :

Three Add-on library packs, expanding upon the more than 100 library modules supplied with the compiler.

Laser Image Technologies.

Benchmark Modula-2 Price List - Effective 1st July, 1989.

Product.	RRP.	AUG Price (less 20%)	Copies	Total.
Benchmark M2	\$275	\$220		
IFF Library.	\$145	N/A		
'C' Library.	\$145	N/A		
Simplified Lib.	\$145	N/A		

Total Amt Enclosed
(Add \$4 Postage per Item) :

AMIGA USERS GROUP Members - The 20% discount for AUG members has been extended to September 30th owing to the non appearance of this add in the last WORKBENCH (thanks Aust. Post!). From October 1, 1989 AUG members discount will be 10%.

MAIL TO : LASER IMAGE TECHNOLOGIES
248 JASPER Rd.,
McKinnon,
Vic. 3204.

Name : _____ AUG # : _____

Address : _____

P/Code : _____

Payment : ☐ Cheque ☐ Cash (Reg. Mail)

The following day I checked out the hard disk (20 Meg MiniScribe) and found it to format and verify with no problems on the AT's at work. Neither my controller or Power Peripheral's controller did anything on the AT's. I suspected that this was because they were XT controllers and I verified this by trying a working XT controller on the same machine. This all meant that I had no way of checking out the controller. This narrowed things down to the either the hard disk adapter or the controller card or both.

My Amiga still worked happily so I assumed that this was not the problem. At this stage I decided that it was out of my hands so I rang John at Power Peripherals and left a message for him to get back to me.

In the mean time, while all this was happening, I installed my Spirit Ram card. (IN1000)

I own one of the later 1000's (1.3) so putting the Ram board in was a little tricky. The actual board is designed to fit above the mother board and (on the earlier versions) next to the daughter board.

The board is nicely packaged as was the hard disk adapter kit and comes with a single sheet of photographed illustrations, each numbered. The actual documentation comes on the support disk and needs to be printed out. Now as it happens, I am one of these silly people that doesn't own a printer, so I was left wondering for a minute how I was going to look at the readme file while the 68000 was out of its socket. (heh heh)

After seeing a little light bulb flashing above my head I proceeded to hook the PAL composite output to my VCR. I then read the readme file and slowly paged through the entire file. (Which, incidentally, is quite extensive) Now I had a ready reference to use and aided by my VCR's 3 head super still and frame advance, I proceeded to leaf through the document with the remote control.

After installing half a meg of 120 ns 41256's I carefully lifted out my 68000 and transferred it to the IN1000 board. Placing the board over the 68000 socket, I carefully lined up all of the extension pins with the aid of a small torch as indicated by the instructions. I found that I needed to bend all of the extension pins very slightly in order that they matched up with the holes in the socket. The first thing I noticed after doing this was that the internal drive cable was somewhat tangled. (Since it normally is folded so that it rests on top of the 68000) Out came the board again and after a brief cable refold, it went back in again. I connected the drive but couldn't fit it into its position since the metal frame normally extends over the top of the 68000 on my model. (John warned me of this beforehand) Leaving everything delicately balanced I switched on and booted the system. Now for the ram diagnostic program to check that all's well. This is were Spirit Technologies really shine out over the rest. The support software supplied with the Ram card is excellent, and as you will see by reading on, a great time-saver.

Double clicking on the ram test icon I was presented with a picture of the IN1000 board. As the test runs, any bad chips are flagged by changing their color. As soon as the test began, I

got one column flagged as bad instantly (including the chips which were not installed) then as the test proceeded, the other uninstalled chips came up as bad. I suspected that one of my chips was bad so I promptly set about replacing it with one that definitely worked. Out came the IN1000 then back in again with the aid of my torch once again. Running the test again I found that much to my delight everything worked including the battery backed clock. (Wow a whole meg!!)

Feeling in the mood for hacking, I decided that while I had the Ami apart that I would make the modifications described in one of the recent WorkBenches to the sound filters. After a brief read of the article I realised that all the mods would have to be done with the IN1000 removed. (Sigh!) So out it came again and back in again after the mods were complete. Luck was with me and all was well when I switched on.

After whipping down to the shed and cutting a small square out of the drive bracket, the drive fitted snugly into its usual position and I was able to close the Amiga's case.

From this I must say that I was sceptical at first about the extension socket system, but after removing and replacing the board half a dozen times (I have a full 2 meg machine now) I am impressed by how well the whole board is designed.

Later that evening I received a phone call from John, who was eager to hear what progress I had made, I explained the symptoms to him and he said that I was welcome to bring everything over and he would have a look at it for me. Early the next morning I arrived at his doorstep with a crate full of bits. Not long after, John had the problem isolated to the DTC controller card which preferred to heat up rather than function. With a new card in place I was happily formatting and verifying (both low level and AmigaDos formats) the drive. While there I had my first look at the insides of one of the new 500's and noted all those blank chip ram positions on the mother board. John demonstrated the ease with which the IN500 can be installed, (Yes even easier than the IN1000, since no mods are necessary) to another customer (Kevin) who had arrived in the meantime and was concerned about the amount of pressure required to push the board into the 68000 socket. Thanking John for his time I raced home once again and have been happily playing with my system ever since. (I now have two Miniscribes hooked up, giving me a total of 44Meg of storage space.

So now I have myself a working 2 meg Amiga with 44Meg of hard disk storage. Many thanks to John and Lyn Hurford of Power Peripherals for all their help and support, I strongly recommend their products and services to all readers, unfortunately it is rare to find a business so ready to support its customers.

Ex. Co-ordinators Comment

For those who may have failed to notice, last months AUG meeting was our Annual General Meeting at which a new committee was elected. As co-ordinator of the previous committee I would like to thank all who contributed to the running of the group in the last 12 months, in particular the members of the committee and our special assistants. At the AGM there were a number of positions filled by new faces but there was more than the usual difficulty in filling the vacant positions. Much encouragement was needed (thanks Peter J.) to get nominations for most of the positions and none were hotly contested. There was a reasonable turn up at the meeting especially considering MANY people did not receive their newsletters before the meeting. I have no idea why the Workbench was late because it was posted around the usual time although a separate group packaged and labelled them away from the usual committee meeting workgroup. If you have not yet received your August 1989 newsletter please let us know and we will endeavor to replace it. Now to the committee changes in detail - you should see a new list of names inside the front cover :

Co-ordinator - Neil Rutledge (position previously vacant) Assistant Co-ordinator - Chris Wearn (previously held by myself) Meeting Chair - Arnold Robbins (Bye for now to Ron Wail) Secretary - Kid Currie (taking over from John 'Eric' Elston) Treasurer - Donna Heenan (keeping up the good work) Membership - John Hampson (Neil Murray deserves a break)

General Members of the committee - welcome to Rod King and Chris Tremelling. PetEr Jetson stays on and Lester McClure (me) still keeps in touch.

In addition to these formal committee positions there are a number of nominated positions selected by the committee and unless there is strong interest shown by others these will be as follows :

Editor - Con (10pt.) Kolivas Book Library - Ross (please return those books) Johnson Disk Library - Michael Lamb (many thanks Craig Hutchison - send us the bill for your disk drive.) Purchasing - Bohdan (drac) Ferens - also our AmigaLink SYSOP.

In addition to electing a new committee at the AGM the members present approved the proposed changes to the rules which govern the operation of AUG Inc. Considerable effort was made to explain the purpose of the proposed changes but in the most part they are to bring the rules of our association into line with the way in which we already operate.

There was also presented to the group a financial report which summarized the financial position of AUG and full details should be published in a future newsletter. In brief, we currently have sufficient funds to continue operating and to meet our immediate needs without any increase in membership fees or other charges for quite some time. A number of items of equipment we have been planning to purchase can now proceed with approval of the incoming committee.

Other items of interest at the August meeting after our AGM

business was completed included a display/demonstration of AMAX - the Mac* (thats bound to be somebody's registered trademark) emulator, courtesy of Eric Salter. An interesting device consisting of a box that plugs into the Amiga disk drive port and contains standard Mac* system PROMS. The supplied software loads this code into the Amiga RAM and this then takes over the complete machine (no multitasking) to emulate a basic Mac*. Of more interest to the general Amiga owner was an A500 converted to run with the new AGNUS and a standard A501 expansion memory module to provide 1 Meg. of CHIP RAM. Apparently the mod. was not difficult and if Commodore admits to the existence of the new AGNUS it should cost you about \$50. The advice from our demonstrator was however, that some software doesn't like all the extra CHIP memory so it was best to fit a switch to change back to a standard machine if needed. There was the usual active question (with some answers) session and some discussion about Commodore Business Machines being fined \$250,000 for setting the retail price of its equipment - this apparently happened back in the early days of selling the Amiga 1000. I guess this fine means we have to wait even longer for prices to drop on current Amiga models.

Over the last 12 months there has been quite a few changes within AUG and the way we operate, however our membership numbers have remained relatively stable within the 900-1000 range. Perhaps if someone is interested in taking up the challenge of Publicity Officer we could increase this - I'm sure you ALL know at least one person who owns an Amiga but is not a member of our group.

AUG as a group has been involved in community activities such as GAMES 89 and the Chelsea Art Show. New Special Interest Groups have been formed - Hardware SIG, Art SIG and some others have been restructured to meet the changing needs of the group members, if you have any suggestions please make them known to a committee members so we can hopefully follow and provide the services required.

We now have a Help-Network volunteer assistance scheme for AUG members and we are looking to start short-term paid training courses where specific needs are best met outside our monthly meetings.

Our monthly newsletter 'Workbench' now accepts members classified advertisements free of charge and we have also published our first 'Special Edition' - on Amiga Viruses.

There have been many other changes such as upgrading AmigaLinkII to full operation at 2400 Baud and our move back to Burwood State college for our monthly meetings, where I think we will stay for some time. There will no doubt be many more changes in the next 12 months and I look forward to being involved and contributing wherever I can.

Lester McClure August 1989

CO-ORDINATORS COMMENT

As most of you realise a new committee was voted in at the August AGM (see the list on page two). I had planned in nominating for one of the honorary committee positions but ended up as the Co-ordinator. One reason for this was the total lack of interest shown by the members who bothered attending the AGM (at least they showed up). With attitudes like that it is not surprising that we only get approximately 150 out of our 900 members attending the monthly meetings.

Over the next year I would like to see,

- i. More members attending the monthly meetings. As I see it, more members attending would generate a broader interest base and as such would make the meetings and SIGs more interesting to all.
- ii. Regular commercial demonstrations at monthly meetings. Surely if a company/store sells one software package at \$200 it would cover the costs of the demonstration.
- iii. A strong and regular beginners SIG. I believe that a group like ours has an obligation towards the beginner. The current idea of running the beginners SIG for approximately 3 months and then starting again is an excellent concept, however without a regular SIG co-ordinator this falls down.
- iv. A more organised question and answer time at the main meeting. It seems at the moment that the questioner if he's lucky gets three answers at once and does not hear any of them nor does the rest of the meeting. A more organised Q & A period would be less intimidating for the beginner.
- v. Club funds. This was discussed at some length at the AGM. My thoughts are along the lines of keeping a float to cover the cost of publishing and distributing the Workbench, miscellaneous stationary, postage etc. and SPENDING the rest. We are not in the business of making money. Put the money towards something that will benefit the membership.
- vi. An increase in the number of new members. This can only help the club. May be the permanent advertising

of the club at the major Amiga dealers would entice prospective members and inform novices of our existence.

- vii. The offering of a substantial discount (in the realms of 25%) to club members by a specific Amiga store (would have to have excellent pre and post sales service). I believe 25% can be warranted by the sheer number of sales that would be involved. There has already been advertisements in the Workbench offering 20% discounts to club members.

OR

The possibility of bulk purchases of software (at wholesale prices) from the US.

- ix. The upgrading of Amiga Link 1 to a multiline BBS. Amiga Link 1 & 2 are one of our biggest advertisements for the club and are in constant use.
- x. Amiga Expo in Melbourne.

Well there my thoughts, how far we get in implementing them as well as your own ideas depends on you (and the committee I guess). There are many members out there who could contribute something to the club. Keep it in mind.

Cheers Neil Rutledge.

This space for rent!

To advertise in Amiga Workbench costs only \$20 for an ad this size.

Other prices: Half Page: \$40 Full Page: \$70 Double Page spread: \$120


```
'Round Buttons by Mark Kelly
'DRAWS ROUND BUTTONS AND DETECTS CLICKS IN THEM
' A Demonstration...
DEFINT a-z
MakeRoundButtons
loop:
LOCATE 1,1
PRINT "PLEASE CLICK ON A BUTTON"
WHILE MOUSE(0)=0:WEND      'wait for click
WhichButton                'which button hit?
IF Button THEN
LOCATE 2,1: COLOR 1,0
PRINT bLab$(Button)" pressed"SPACE$(20)
WHILE MOUSE(0)<>0:WEND      'waste excess clicks
END IF
GOTO loop

'-----
'      DRAW ROUND BUTTONS
'-----

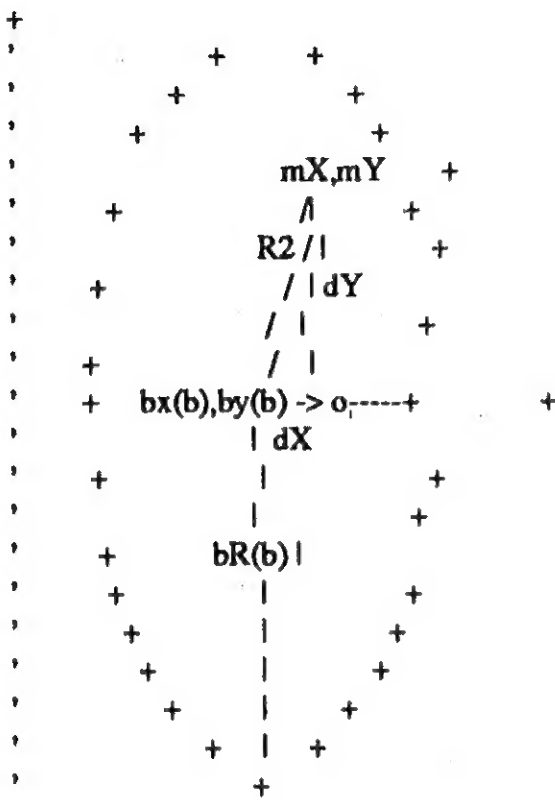
SUB MakeRoundButtons STATIC
  SHARED nb
  RESTORE bdata
  nb=0
  WHILE X<>999
    READ X,Y,R,Lab$
    IF X<999 THEN nb=nb+1      'count buttons
  WEND
  DIM SHARED bX(nb)      'button centre X
  DIM SHARED bY(nb)      'button centre Y
  DIM SHARED bR(nb)      'button radius
  DIM SHARED bLab$(nb)   'button label

  RESTORE bdata      're-read, draw & save data
  FOR b=1 TO nb
    READ X,Y,R,Lab$
    CIRCLE(X,Y),R,2: PAINT (X,Y),1,2 'draw button
    LOCATE Y/8+.5,1: COLOR 2,1
    PRINT PTAB(X-LEN(Lab$)*4) Lab$; 'centre label
    bX(b)=X: bY(b)=Y
    bR(b)=R: bLab$(b)=Lab$
  NEXT

  bdata: 'buttons are defined here
  ' X Y R LABEL
  DATA 100, 50, 40, "CANCEL"
  DATA 200, 100, 40, "DO IT"
  DATA 500, 100, 80, "DON'T PANIC"
  DATA 300, 50, 30, "HI"
  DATA 100, 150, 30, "Please"
  DATA 170, 150, 30, "click"
  DATA 240, 150, 30, "on"
  DATA 310, 150, 30, "me"
  'last data item must stay here
  DATA 999, 999, 9, 99, "LAST"
END SUB

'-----
'      FIND WHICH BUTTON WAS PRESSED
'-----

SUB WhichButton STATIC
  SHARED nb,Button
  DIM SHARED bX,bY,bR
  mm=MOUSE(0): mX=MOUSE(1): mY=MOUSE(2) 'mouse loc
  FOR b=1 TO nb
    dX=ABS(mX-bX(b))      'distance from X to MX
    dY=ABS(mY-bY(b))*2.2  'Y to MY with aspect compensation
    R2=SQR(dX*dX+dY*dY)    'hypotenuse=dist.from X,Y to mouse
    'If distance from pointer to centre of circle b (R2) is
    'less than circle radius (bR) then pointer's in the circle.
    IF R2 < bR(b) THEN
      SOUND 2500,1
      Button=b
      PAINT (mX,mY),3,2: PAINT (mX,mY),1,2 'flash it
    EXIT SUB
  END IF
NEXT
END SUB
```



NWAUGNWUAGNWAUGNWAUGNWAUG

North West Amiga Users Group

A geographical Special Interest Group
OF AUG

Meetings Held every 2nd Wednesday
at 7:30 pm in Rooms 19 & 20, 1st Floor
Essendon Community Centre,
Cnr Mt Alexander & Pascoe Vale Rds
Moonee Ponds 3039

Meetings Scheduled:
13/9/89 27/9/89 11/10/89

Nwaug members to be members of AUG
NWAUG annual fee of \$5 helps cover
PD, Library and Equipment costs.

Meeting Entrance fee of \$1 (\$2 visitors)
covers room hire/coffee/biscuits.

NWAUG- A multitasking SIG of AUG
See YOU at a meeting soon.

NWAUGNWAUGNWAUGNWAUGNWAUG

Lots of Goodies

This is an introductory posting to comp.sys.amiga.tech. If you are a new reader of this group or even if you just want Amiga/Usenet information, please read the following articles.

This posting last changed: July 4, 1989

Edwin edwin@rose.waterloo.edu ,NOV >From: cmcman-
is@pepper.UUCP Subject: Re: Novice Question..

Hmmm, in an attempt to avoid religious battles, allow me to enumerate the most common problems that new programmers to the Amiga encounter. (in order of most commonness) :

- # 1 : The library base variables are declared incorrectly, either in spelling, or with improper case.
- # 2 : The MANX C compiler is used without the +L option.
- # 3 : The order of the libraries is reversed when linking Lattice objects (Amiga.lib+LC.lib versus lc.lib+amiga.lib)
- # 4 : Something that needs to be in CHIP ram isn't there.
- # 5 : The stack is set too low when the program is run.

These are generally discovered by people who have programmed before eventually but they are sometimes insurmountable problems to complete novices.

--Chuck McManis uucp: {anywhere}!sun!cmcmanis BIX:
cmcmanis ARPAnet: cmcmanis@sun.com These opinions are my own and no one elses, but you knew that didn't you.

Solutions to these problems: # 1 : Fix the spelling. (hard, eh?)

2 : Manx uses 16 bits as a default size for ints. Lattice uses 32 bits as its default, and is therefore not subject to this. The problem lies in trying to call a routine from Manx that requires 32 bit ints. Most calls to the operating system and most programs or libraries that use the operating system calls need to use 32 bit ints or they do wild and wonderful things all over memory. To get Manx to use 32 bits by default, just add +L to the 'cc' line. Also, once you have done this, remember to link with the 32 bit libraries: c32.lib m32.lib.

3 : Reverse 'em. (another easy mistake, but common)

4 : The Amiga's custom graphics and sound chips can only access the first 512K of memory (slow or chip memory). Therefore, anything that these chips use must be in the first 512K of memory. To make sure that you get chip memory do add the MEMF_CHIP constant to your call to AllocMem:

```
foobar *milkchocolate;  
milkchocolate = ( foobar * ) AllocMem (sizeof(foobar),  
MEMF_CHIP);
```

Then copy your data to the memory pointed to by "milkchocolate".

5 : Set the stack using the AmigaDOS 'stack' command to be higher than it is now. (20000 is a good start) A rule of thumb is

to double the current size and try again until it works.

Edwin Hoogerbeets uunet!utail!utcsri!hcr!edwin ,MOT From:
daveh@cbmvax.UUCP Subject: Re: B2000 Rev 4.4 Mother-board

in article <826@raven.ukc.ac.uk>, rpa@raven.ukc.ac.uk (R.P.Almeida) says: > Could someone at CATS tell me what the changes between 4.3 and 4.4 are ?

How about someone in Systems Design? The R4.4 board has two resistors on the board layout that had to be added by hand on the R4.3 board. It also has a few traces and things moved around, to make it easier to produce than a R4.3 board.

> Also could someone tell me which link causes the 0x00C00000 memory to be > mapped at 0x00080000 ?

That's the link marked J101. But DON'T move this jumper until you get a 1 meg Fat Agnus installed, or the system will die miserably as soon as any of that remapped-into-chipram-space-but-not-really-chip-accessable memory gets touched.

> I also have the memory expansion board from an A2000 (the original Amiga2000) > populated to 1Mbyte.

Remove the memory chips and throw it away!

> I wanted to install it in the B2000, so i disconnected link J500 on the B2000 > , so as to disable the 0x00C00000 memory totally, and installed the board. > It didnt work.

No, it wouldn't.

> This worries me, are the A2000 and B2000 CPU slot timings that different?

There are some slight differences, both in timing (mainly the difference between Thin and Fat Agnus) and in signals on the CPU slots (due to the B2000's full CPU slot implementation). This isn't a problem is you design things to the published specs. The A2000's add-on board wasn't designed to our specifications, it was designed specifically for the A2000, using unpublished information about the A2000 that doesn't necessarily apply to any other Amiga. It should only be used in an A2000.

-- Dave Haynie "The 32 Bit Guy" Commodore-Amiga
"The Crew That Never Rests"
{ihnp4!uunet!rutgers}!cbmvax!daveh PLINK: D-DAVE H
BIX: hazy
"I can't relax, 'cause I'm a Boinger!" ,MOU From: kjo-
hn@richp1.UUCP Subject: AmigaDOS MountList Tips

ATTENTION ALL HARD DISK USERS:

I do not know if this is common knowledge on Usenet (I never saw it before.....), but the way that AmigaDOS uses MountList information is misleading.

When AmigaDOS has a hard disk to use, it treats the disk as if it were a continuous string of sectors (i.e. it ignores track information). Normally, this is not a problem because all portion

mounted on a single disk use the same number of sectors per track. THIS IS NOT TRUE WHEN SIMULATING A FLOPPY DISK ON A HARD DISK!!!!

[You might want to simulate a floppy disk on your hard drive so that you can use the Amiga 1.3 DISKCOPY program which only does the job when it believes that the source and destination disks are identical. That is, the number of tracks, the number of sectors per track and the number of heads].

When mounting a simulated floppy disk, you must change the number of heads to 2, the number of track to 80, and the number of sectors per track to 11. This causes a problem with AmigaDOS, because it calculates the first sector to start a partition on based on the following formula:

(starting sector #) = (starting track #)*(# of sectors/track)*(# of sides)

This causes simulated floppy partions to start on a sector nowhere near where you thought you told AmigaDOS to put it! Since this sounds rather confusing, here is an example:

To make a simulated floppy starting at track 100 of an ST238 (4 heads, 610 tracks (according to C.Ltd, 615 by Seagate), 26 sectors/track)

MountList entry (in error):

DH0:
Starting Cylinder (track) = 0
Ending Cylinder = 99
Sectors per Track = 26
Number of sides (heads) = 4

HF0: (Simulated Floppy)
Starting Cylinder (track) = 100
Ending Cylinder = 179
Sectors per Track = 11
Number of sides (heads) = 2

DH1:
Starting Cylinder (track) = 180
Ending Cylinder = 609
Sectors per Track = 26
Number of sides (heads) = 4

One would think this would start on track 100. Wrong!

If you apply the formula from before you get:

starting sector number = $100 * 11 * 2 = 1760$

On the ST238 this is actually on physical track:

physical track = $2200 / (26 * 4) = \text{track } 21.1538$ (near beginning of track 21)

Yes, you would have just trashed what ever was on track 21 instead of using track 100 as you had asked (this has bitten me

MANY times, it wiped out my main partion for 2 days during the EXPO (made me stay up all night Friday copying disks for Saturdays get-together)).

The correct MountList entry should have been:

desired starting track = 100

desired starting physical sector = $26 * 4 * 100 = 10400$

starting logical track = $10400 / (11 * 2) = 472.7$ (don't want to hit physical track 99, so use 473)

ending logical track = $473 + 80 - 1 = 552$ (80 logical tracks per sector on a floppy)

ending physical sector = $552 * (11 * 2) / (26 * 4) = 116.8$ (not quite into track 117, so use 116)

So our MountList entry should have looked like this

DH0:
Starting Cylinder (track) = 0
Ending Cylinder = 99
Sectors per Track = 26
Number of sides (heads) = 4

HF0: (Simulated Floppy)
Starting Cylinder (track) = 473
Ending Cylinder = 552
Sectors per Track = 11
Number of sides (heads) = 2

DH1:
Starting Cylinder (track) = 117
Ending Cylinder = 609
Sectors per Track = 26
Number of sides (heads) = 4

[Each mountlist entry seems to separately tell AmigaDOS the complete physical configuration of the drive, but the calculations for starting cylinder, track and number of sectors per surface are simply providing a non-overlapping method of telling AmigaDOS which is calculated sector to assign as the first sector within a logical partition. All of the calculations come down to that.]

Some of you may look at this and say, "Why would I want to make my HD look like part of it was a floppy drive?" Well, the first thing that comes to mind is copying disks. If you have to make more than 1 copy of a disk, you can use DISKCOPY to copy it to your HD floppy and then use DISCOPY to copy it onto as many disks as you need (due to the incredible speed of the HD, you save the time it would have taken to read the disk the second, third, etc. times). This is also useful if you wish to work with a foreign disk, just copy it to

your simulated floppy. If the disk has a virus and it tries to trash your boot dish, it can't (it's on your HD)!

I hope this proves useful, but not too confusing. Just remember, when you are calculating the track numbers to use in the MountList, they are logical track numbers calculated from of the current MountList entry.

KJohn

I can be reached at:

RealTime (prefered): 1(312)403-4762 (6pm to 10:30pm central time)

USmail: John Kjellman
14465 Middle Pine Creek Dr.
Orland Park, IL 60462

E-Mail: kjohn@richp1.UUCP ,REE From: carolyn@cbmvax.UUCP Subject: Re: Reentrant Lattice C code

I have a couple of versions of reentrant startup code which will appear on the 1.3 Native Developer Update disks when 1.3 is released. These startups can be used in place of Astartup (not Lstartup/c.o). So if you program can be compiled -v and linked with Astartup.obj... LIBRARY Amiga.lib, LC.lib, and you write YOUR code so it is reentrant, you can link with the new reentrant startup code and create executables that can be made resident. (like 1.3 More program, etc.)

Making YOUR code reentrant involves having no globals except for constants (like error message strings, etc), and library bases. When doing OpenLibrary(), you must keep your result in a local variable, only store to the global Base if successful, and use your local when you CloseLibrary.

If you have a lot of variables that need to be "known" to all of your subroutines, you can put them all in a dynamically allocated and cleared structure, and pass a pointer to that structure to each of your routines. This has a minimal impact on your coding style, and makes it fairly easy to retrofit reentrancy on existing code.

--
Carolyn Scheppner -- CATS Commodore Amiga Technical Support
PHONE 215-431-9180 UUCP
...{uunet,allegra,rutgers}|cbmvax|carolyn

Calm down. It's just ones and zeros.

>From: dillon@CORY.BERKELEY.EDU.UUCP Subject: Re: how to write reentrant C code?

> Does anybody know what the dos and don'ts are to write reentrant code with >Manx 3.4? (or 3.6 as I will be upgrading to that soon).

Mainly, you have to stay away from most link-library routines

(C.LIB). As you said, globals, unless they are constants, are out. For example, SysBase and DOSBase are globals but never change, so they are ok. STDIO (in C.LIB) is DEFINATELY out. If you stick to run-time library calls and keep in mind your code might be running simultaneously in different contexes, you should be fine.

AVOID RETURNING STRUCTURES. Many compilers, Aztec included (I'm pretty sure), use static memory to hold structural return values. I don't know of anybody who uses the [mis]feature, though.

STATIC variables, unless used purposefully, are also out.

NOTE: This means using the main() entry point is out, as it sets up stdio. I am not sure about using _main() ... it might work. If all else fails, you can compile your code +B, and assuming there are no other references to .begin, the code is entered at the first module. In this case you must remember that global variables will NOT be zero'd initially, and neither the DOS or EXEC libraries will be open.

Did I miss anything?

-Matt >From: carolyn@cbmvax.UUCP Subject: Re: Reentrant Lattice C code

In article <Aug.4.19.20.35.1988.6604@pilot.njin.net> limoncelle@pilot.njin.net (Tom Limoncelli) writes: >Could someone go over what it takes to make code RESIDENT? I was >sort-of-hoping that most well-behaved programs that don't modify >string constants (that are in the code segment), etc should work... >right?

The Amiga 1.3 Workbench resident command just loadsegs the code and sticks it on the DOS resident list. It does not attempt to clone data segments or do anything similar since it would be quite impossible with unknown code generated by an unknown compiler or assembler.

i.e. - If you want your program to work with Amiga RESIDENT, either YOU or your compiler must make that code pure. So pure that it is re-executable, reentrant, etc. So that lots of tasks could all use that code at the SAME time with no problem.

I am providing a way for YOU to write pure code NOW. Your compiler might offer something better which is compiler-specific. If so, use it.

Carolyn Scheppner -- CATS Commodore Amiga Technical Support
PHONE 215-431-9180 UUCP
...{uunet,allegra,rutgers}|cbmvax|carolyn

If you find my mind, please email it to me. I seem to have mislaid it.

,TEC From: cbmvax!lauren (Lauren Brown CATS) Subject: Re: Tech Ref. Docs

This list will be growing, as we make the 1.3 Native Developer Update available, along with some other stuff we're planning.

Commodore-Amiga Technical Information

Amiga 1000 Schematics and Expansion Specifications
Full A1000 schematics, timing diagrams, PAL equations, and documentation of auto-config process

IFF Manual and Disk

Full IFF documentation and source listings, including new IFF form chunk ANIM. IFF disk includes source code, object files, executable programs and documentation.

Fall 1986 Developers Conference Notes

Contains the diagrams, outlines and additional notes pertaining to each conference speakers' topic. Some additional information has been included (e.g., 8520 specifications).

AmigaMail

Bimonthly technical newsletter produced by CATS. Articles range from programming standards through programming for compatibility to advance technical information on new products (hardware and software).

Cost EACH for any of the above: U.S. \$20 (in Canada \$22.50, \$25 elsewhere)

A500/A2000 Technical Reference Manual

275 page reference manual that describes the technical features of the A500 and A2000, and the features that differ from the A1000. Included are: System block diagrams, Amiga Expansion, Designing hardware for the Amiga Expansion Architecture, Driver documentation, Software for Amiga Expansion, BIOS entry points, Clock/Calendar Registers, plus much more. Also included are schematics.

Cost each: U.S. \$40 (in Canada \$42.50, \$45 elsewhere)

TO ORDER

Send check or money order payable in U.S. funds to:

CATS-Orders
1200 Wilson Drive
West Chester, PA 19382

Commodore Amiga Technical Support Programs

Certified Developer Support Program: Cost is \$75 for the first year. Provides technical support through AmigaMail (our bimonthly newsletter) and through the amiga.dev conferences on BIX. Provides marketing information through AmigaMail-

Markets our quarterly marketing newsletter. Hardware discounts are available to members of this program. Internal documentation and technical updates are made available when possible. This program is for third party developers who have not yet brought a product to market. Also, many user groups and education institutions find this program useful.

Commercial Developer Support Program: Cost is \$500 for the first year. This program includes all of the benefits listed above, along with eligibility for direct phone support from Commodore Amiga Technical Support (CATS) and membership in the closed developer conferences on BIX. When possible, and when a need is shown, beta versions of hardware and software are made available to Commercial developers. This program is designed for individuals and companies who have already successfully launched products into the commercial market. Because of the increased effort and resources required to provide this more intensive form of support, membership is limited, and subject to approval by Commodore.

To receive an application for either support program, write to:

CATS-Inquiries
1200 Wilson Drive
West Chester, PA 19382

New documents:

Commodore-Amiga, Incorporated. Amiga Technical Reference Series.
Reading, Massachusetts: Addison-Wesley Publishing Company, Inc.; 1989; 3 volumes; 28 cm.

Amiga Hardware Reference Manual.
[STILL on order] approx \$30

Amiga ROM Kernal Reference Manual: Libraries & Devices.
[STILL on order] approx \$40

Amiga ROM Kernal Reference Manual: Includes & Autodocs.
approx. 760 pages. "This manual corresponds to V1.3 system software release."

ISBN 0-201-18177-0. \$32.95. Commodore Item Number 327271-06.

Introduction

Library Summaries
diskfont.doc exec.doc expansion.doc graphics.doc icon.doc intuition.doc layers.doc mathffp.doc mathieedoub-bas.doc mathieedoubtrans.doc mathtrans.doc translator.doc
Devices Summaries
audio.doc clipboard.doc console.doc gameport.doc input.doc keyboard.doc narrator.doc parallel.doc printer.doc serial.doc timer.doc trackdisk.doc
Resource Summaries
cia.doc disk.doc misc.doc potgo.doc
C Include files - ".h" Files

Assembly Include Files - ".i" Files

Linker Libraries

[amiga.lib stuff]

Sample Device, Sample Library

Reference Charts

1.3_Base_Offset_Reference

Assembly_Prefix_Reference

C_Language_Cross-Reference

Chip_Register_Map

Structure Reference

IFF - Interchange File Format

EA IFF 85 - General IFF Format Specifications

Form Specifications from the Original EA Document

Additional IFF Documents

Third Party Registered FORM and Chunk Specifications

tions

EA IFF Source Code

Additional IFF Examples

Function Index

John A. Thywissen <thywiss@csvax.cs.ukans.edu>
,UNS From: carolyn@cbmvax.UUCP Subject: Unsupported Programming Practices

IMPORTANT!

Official Warning to Rom-Jumpers, Structure-Hackers, and Others
From Commodore Engineering, Commodore-Amiga, and C.A.T.S.

We who bring you the Amiga want to make it perfectly clear that if you don't follow the rules, you WILL break.

The following practices are NOT supported!

- Jumping directly to ROM code
- Modifying or depending on private system structures
- Depending on the addresses of system structures or free memory
- Ignoring hardware or software interfacing specifications

Do not jump into ROM. Beware of any example code that calls routines in the \$F80000 to \$FFFFFF range. Those are ROM addresses and those ROM routines WILL move. The only supported interface to system ROM code is through the provided library, device, and resource calls.

Do not modify or depend on the format of the private system structures. This includes the poking of copper lists, memory lists, and library bases.

Do not depend on any address containing any particular system structure or type of memory. The system modules dynamically allocate their memory space when they are initialized. The addresses of system structures and buffers differ with every OS, every model, and every configuration, as does the amount of free memory and system stack usage.

If you are using the system libraries, devices, and resources, you must follow the defined interface. Assembler programmers (and compiler writers) must enter functions through the

library base jump tables, with arguments passed as longs and library base address in A6. Results returned in D0 must be tested, and the contents of D0-D0/A0-A1 must be assumed lost after a system call.

Do not use assembler instructions which are privileged on any 68000 family processor. All addresses must be 32 bits. Do not use the upper 8 bits for other data. Do not execute code on your stack or put system structures on your stack. Do not use the TAS instruction.

Do not use software instruction based timing loops or delays.

If you are programming at the hardware level, you must follow hardware interfacing specifications. All hardware is NOT the same. Do not assume that low level hacks for speed or copy protection will work on all drives, or all keyboards, or all systems, or future systems.

Software distributors who purchase or contract software from outside programmers must make sure that the programmers are aware of correct programming practices and are providing software which will not break on different machines or different OS revisions.

We are dedicated to enhancing and expanding the capabilities of the Amiga hardware and software, while maintaining compatibility wherever possible for those who follow the rules. Those who don't follow the rules can consider themselves warned.

Carolyn Scheppler -- CATS Commodore Amiga Technical Support
PHONE 215-431-9180 UUCP
...(uunet,allegra,rutgers)!cbmvax!carolyn

Subject: Re: Unsupported Programming Practices

Don't write self-modifying code. It currently CAN'T be supported for future systems. Even if you get clever and manage to always overrun the cache on a 68020 system, you'll probably not overrun the cache on a future system.

If you're messing with exception stacks, you're responsible for doing the right things for each 680x0 processor. Note that even the 68010 has its own special exception stack in some cases.

Don't expect OS level things done by user level programs to always work. Things like changing cache parameters or MMU banging are by definition things that should be managed by the operating system. Currently, some of these aren't. In the future, they should be. And programs that muck with them today will not likely work once OS support is provided.

-- Dave Haynie "The 32 Bit Guy" Commodore-Amiga
"The Crew That Never Rests"
(uunet!pyramid!rutgers)!cbmvax!daveh PLINK: D-DAVE
H BIX: hazy
Amiga -- It's not just a job, it's an obsession ,REC >From: cm-cmanis@pepper.UUCP Subject: Re: resource reclamation

In article <YX2ERcy00U0h0IEQFxo@andrew.cmu.edu> (Miles Bader) writes: > How come simple resource reclamation isn't

AMIGA HELP-NETWORK

The following is a list of AUG members who have volunteered to share their knowledge/experiences with others. If you also want to help and have your name listed here please contact Lester McClure (233 5664 AH). The names are not listed in any order of priority and the format may change in future listings. Please keep contacts to reasonable hours (6 to 9 pm unless otherwise mentioned) and remember one very important basis of this service - they are volunteers...

Neville Sleep	-	AmigaBasic (beginner level)	-	546 0633
Rudy Kohut	-	AmigaBasic (intermediate)	-	807 3911
John Elston	-	AmigaBasic (advanced)	-	375 4142
Alan Garner	-	AmigaBasic, A/C Basic	-	879 2683
Mal Woods	-	C (beginner level), Professional Page	-	888 8129
Andrew Gelme	-	C (advanced) - AZTEC	-	645 1744
Eric Salter	-	C (advanced) - LATTICE, TeX	-	861 9117
Norm Christian	-	Amiga Art, Music	-	580 3756
Neil Rutledge	-	Music, Audio Sampling, MIDI	-	597 0928
Russ Lorback	-	Excellence!, Superbase Professional (Beg-Int) After 9:30 pm	-	756 6640
Darren King	-	Amiga Viruses, Modems/communications	-	546 5040
George Wahr	-	Side-Car, Bridgeboard	-	376 6180
James Gardiner	-	AmigaDOS, Auto-boot hard drives	-	523 6843
Stephen Bell	-	Hardware design	-	25 8415
Joe Santamaria	-	Graphic arts - DPaint, Sculpt etc.	-	836 9129

done? It seems like it > would be pretty simple to hang a list of allocated resources off a > task... > -Miles

Because it isn't. The original DOS specified for the Amiga included resource reclamation, however when time got tight and Commodore had to go with MetaCompCo's modified version of TriPOS, there wasn't time to put it in. If you look at some of the structures you will notice that there entries for Tasks such as tc_MemEntry which were for this kind of stuff.

That is not to say that it isn't possible. The ARP project (AmigaDOS Replacement Project) has created a library which allows you to track resources and free them on exit. The ARP stuff in on a Fish disk #??? and available thru the amiga archives.

The question Miles didn't ask but always follows is :

How come I can't kill a hung process with ^C or something? And when the program breaks why do I have to reboot the machine?

The reason is that the 'Amiga does' not have memory protection between tasks. And when a program goes astray, you do not know what sort of damage it may have caused to internal memory structures. It can damage the memory free list, track-disk buffers, the stack of other programs, and a host of other "sensitive" areas. Consequently, if you continue to run the machine after a program has died, you run the much greater risk of destroying completely unrelated data. For most people this is unacceptable and that is why you have to reboot. For those people who like to gamble, there is a commercial program called GOMF which attempts to recover from these situations. It does keep the machine running, however if another program

you are running crashes, you should be aware that it is much more likely that the originally crashed program probably is responsible, not a bug in the code that just ran.

(TO BE CONTINUED NEXT MONTH)

Editor's Column
(Written 3/9/89)

Last month was a real fizzer at the Annual General Meeting, and not because people didn't listen to my pleas, but for some unknown reason, most people didn't get their newsletter until after the darn meeting.

Anyhow, I welcome the new committee, and I hope we are turning over not a new leaf, but a greener one. What does that mean? who cares, I just wanted to say something like that. If you are wondering why all that babble over the last few pages is almost unedited and at times rather poorly put together, I apologise because I didn't have time to look through it carefully. Those pictures that came out rather badly last month were a result of poor printing. Some other time I'll put them in again.

Please support the new committee at least as much as the previous commttee, and since most of them are fresh members, this would be the best time to ask for something, as they will try anything to keep the club interesting.
See you at the next meeting (I hope).

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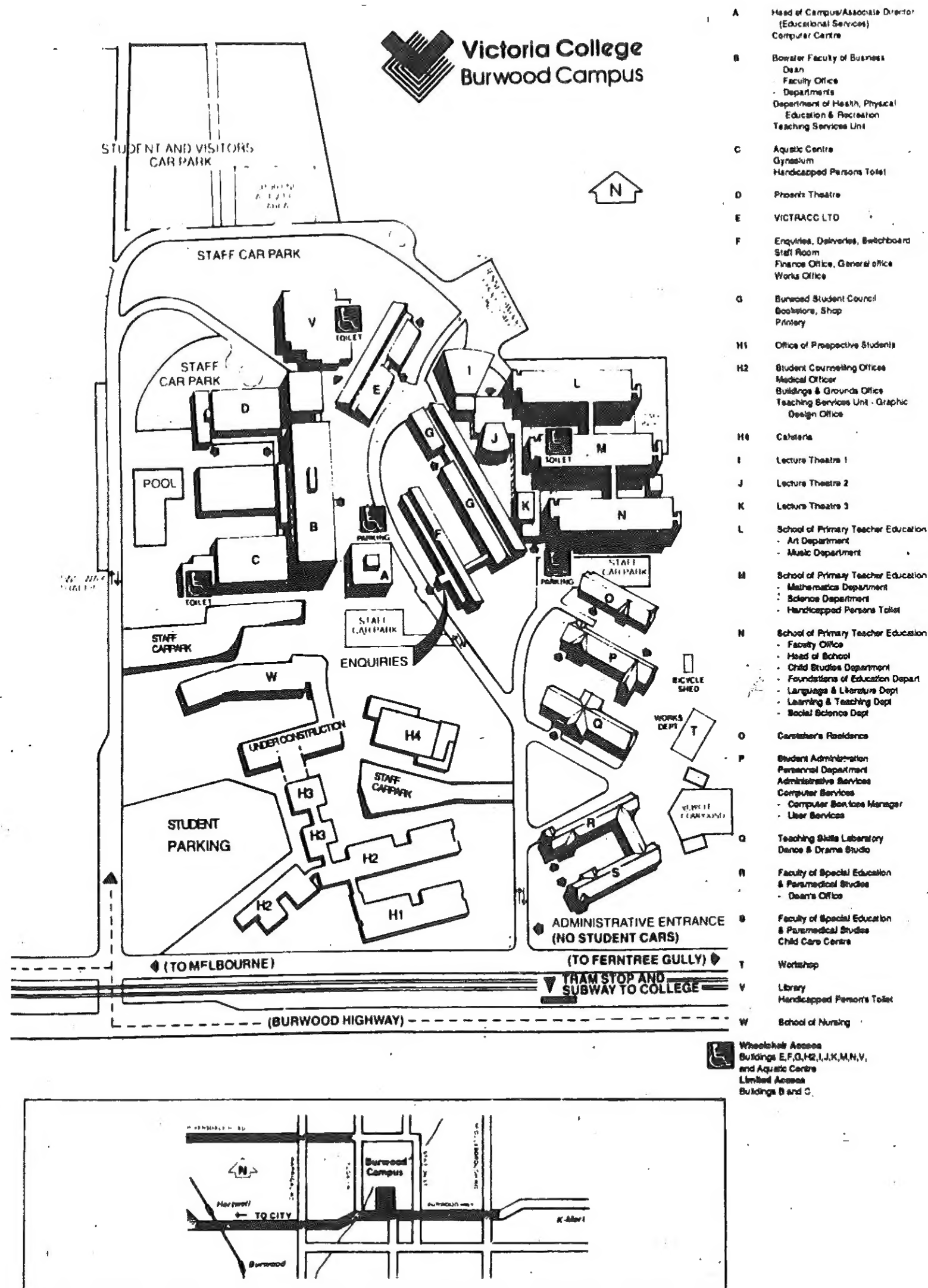
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September 1989 Amiga Workbench

AUG meets on the third Sunday of each month



Where is Victoria College, Burwood Campus?

People often have difficulty locating our meeting place the first few times. Victoria College is on the North side of Burwood Highway, Burwood, just East of Elgar road. Coming from the City along Burwood Highway, turn left at the first set of traffic lights after Elgar road. Follow the road around past the football oval, over three or four traffic bumps to the car parking areas near the netball courts. Further up the road, to the left, you'll find Lecture Theatres 1 and 2.